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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,987

05/03/2006

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25944 7590 08/17/2009  
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EXAMINER

PARSONS, THOMAS H

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

08/17/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/577,987	<b>Applicant(s)</b> TAKASE ET AL.	
	<b>Examiner</b> THOMAS H. PARSONS	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 13, 14, 16, 17, 20-28, 30, 31, 33-35, 38-44, 46-50, 52, 60, 65, 67, 68, 73, 79, 80, 83 and 86 is/are allowed.
- 6) ☒ Claim(s) 11, 12, 19, 36 and 37 is/are rejected.
- 7) ☐ Claim(s) 53-55 and 57-59 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Disposition of Claims: Claims pending in the application are 1-9,11-14,16,17,19-28,30,31,33-44,46-50,52-55,57-60,65,67,68,73,79,80, 83 and 86.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :06/04/2009; 10/16/2007; 05/03/2006.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

page 18, line 9, suggest changing “**he** recess” to --**the** recess--.

page 29, line 8, the text, “...formed only one the separator 7...” appears awkwardly worded.

page 33, line 19-20, the text, “...formed only one the separators 6...” appears awkwardly worded.

page 34, line 24, suggest changing “22b” to --22a--.

page 35, line 8, suggest changing “22b” to --22a--.

page 40, line 1, the text, “...hardness than but an equivalent...” appears awkwardly worded.

page 51, line 12, suggest changing “41c, 41c” to --41a, 41c--.

page 54, line 3, suggest changing “built-in **rollers**” to --built-in **heaters**--.

Appropriate correction is required.

### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

“gradient  $\alpha$ ”, as mentioned on page 47, line 17.

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Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Abstract***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***The abstract of the instant application exceeds 150 words. Accordingly, the Examiner suggests amending the abstract, as appropriate, to be with 50 to 150 words.***

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 11, 12 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 2 of each claim, the addition of the word “like” to an otherwise definite expression extends the scope of the expression so as to render it indefinite.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handley et al. (Impact of the European Union vehicle waste directive on end-of-life options for polymer electrolyte fuel cells).

**Claim 36:** Handley et al. discloses a disassembly method of disassembling a fuel cell (line 3-6 of the abstract), which comprises: an electrode assembly that has an electrolyte interposed between a pair of electrodes; a pair of separators that are arranged across the electrode assembly, where one of the separators facing one of the electrodes has an oxidizing gas conduit, while the other of the separators facing the other of the electrodes has a fuel gas conduit; and a sealing member that is formed along periphery of the electrode assembly in a gap between the pair of separators (obvious features of a fuel cell),

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The disassembly method comprising the step of:

applying an external force from outside of said fuel cell to an outer face of at least one of the separators or the gap between the pair of separators, so as to facilitate disassembly of said fuel cell (see page 348, left-hand column, line 15-16). *See also entire document.*

**Claim 37:** Handley et al. disclose that the disassembly-facilitating step applies the external force to a position outside the electrodes (i.e. on the surface of the separator) which obviously would be inside the sealing member on at least one of the separators.

***Allowable Subject Matter***

8. Claims 1-9, 13-14, 16-17, 20-28, 30-31, 33-35, 38-44, 46-50, 52, 60, 65, 67-68, 73, 79-80, 83 and 86 are allowable over the prior art references of record.

9. Claim 53-55 and 57-59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 11, 12 and 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Reasons for Indicating Allowable Subject Matter***

11. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of the allowable subject matter of claims 1-9, 13-14, 16-17, 20-28, 30-31 and 33-35 is the recitation in claim 1 of a fuel cell comprising a breaking guide that is used for breakage of at least one of the separators.

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The primary reason for the indication of the allowable subject matter of claims 38-44, 46-50 and 52 is the recitation in claim 38 of a disassembly method of disassembling a fuel cell which comprises a breaking guide that is used for breakage of at least one of the separators, the disassembly method comprising the step of utilizing the breaking guide to apply an external force from outside of the fuel cell to an outer face of at least one of the separators or the gap between the pair of separators, so as to facilitate disassembly of the fuel cell.

The primary reason for the indication of the allowable subject matter of claims 60, 65, 67-68, 73, 79-80, 83 and 86 is the recitation in claim 60 of a separator comprising a breaking guide that is formed along periphery of the separator for breakage of the separator.

### *Examiner Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS H. PARSONS whose telephone number is (571)272-1290. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR



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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795

/Thomas H Parsons/  
Examiner, Art Unit 1795

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